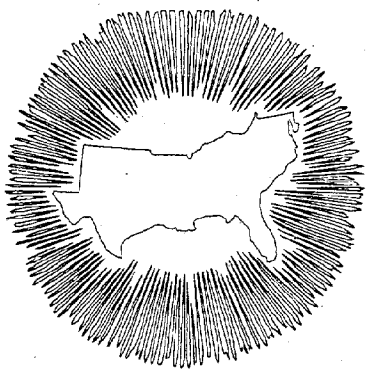

SOUTHERN GROWTH POLICIES BOARD

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GROWTH PROJECTIONS FOR THE SOUTH

Prepared for:

U.S. Environmental Protection Agency
Seminar on Regional Growth Issues in the South

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FOREWORD

This report was prepared by E. Evan Brunson, Southern Growth Policies Board Director of Research and Thomas D. Bever, Administrative Assistant to the Executive Director. The statistical projections in the report are based on U.S. Department of Commerce OBERS projections, which are the most recent federal projections available for the 15-state South. In comparing the OBERS projected with recent growth trends in the South, it was discovered that several Southern states have already reached their 1980 projected populations, income levels and employment growth. In some cases, 1985 or 1990 levels have been exceeded. As a result, the second portion of this report on future growth in the South is based primarily on actual growth trends since 1970 rather than on the OBERS projections.

Other sources of data and analysis used by SGPB in compiling this report include an article by James T. Fergus in the January, 1977 issue of Monthly Review, Federal Reserve Bank of Atlanta; "The Changing Structure of the Southern Economy" by William H. Miernyk, Director, Regional Research Institue, West Virginia University; a recent analysis of Southern economic trends by Lawerence K. Lynch, Associate Professor of Economics, University of Kentucky; and the Georgia State University Economic Forecasting Project "Quarterly Newsletter on the South," (2nd quarter 1976) by Donald Ratajczak, Director.

E. Evan Brunson
Director of Research
Southern Growth Policies Board

GROWTH PROJECTIONS FOR THE SOUTH

STATISTICAL FORECASTS

POPULATION PROJECTIONS (See Table II-1)

According to the 1974 U.S. Department of Commerce OBERS Projections, the 15 state South is projected to grow 10.5 percent between 1971-80 to 69 million persons, and 13.0 percent by 1990 to 78 million. These projections predict a growth rate in the South considerably above that for the U.S.; the U.S. will supposedly grow 8.4 percent from 1971-80 and 10.0 percent from 1980-90. Projected growth for the Region IV states is 13.5 percent between 1971-80 and 14.4 percent between 1980-90, while Region VI is projected to grow only 5.2 percent from 1971-80 and 9.6 percent from 1980-90.

The OBERS forecasts, which were released in 1974, do not predict the surge of inmigration to the South that has occurred since 1970. Already, Alabama, Arkansas, Louisiana, and Oklahoma are slightly above their projected populations for 1980, while every other state is within 350,000 of their 1980 projection. The percentage gains from 1970-76 of each Region VI state have been higher than the projected 1971-80 increase; the Region's percent gain from 1970-76 was 11.0, compared to the projected 5.2 gain for the Region for 1971-80.

Table II-1

Population by State
Selected Years 1950-1990*
(in thousands)

	1950	1969	1971	1980	1990
Alabama	3,058	3,440	3,487	3,747	4,090
Arkansas	1,908	1,913	1,951	2,087	2,271
Florida	2,810	6,641	7,026	8,926	10,978
Georgia	3,458	4,551	4,646	5,147	5,907
Kentucky	2,936	3,198	3,276	3,609	3,982
Louisiana	2,697	3,619	3,693	3,744	3,937
Maryland	2,355	3,868	4,007	4,473	5,275
Mississippi	2,176	2,220	2,250	2,328	2,450
New Mexico	689	1,011	1,045	1,055	1,131
North Carolina	4,068	5,031	5,158	5,736	6,465
Oklahoma	2,229	2,535	2,600	2,762	2,993
South Carolina	2,113	2,570	2,633	2,819	3,122
Tennessee	3,315	3,897	3,994	4,557	5,191
Texas	7,776	11,045	11,428	12,167	13,580
Virginia	3,315	4,614	4,720	5,295	6,135
West Virginia	2,006	1,746	1,768	1,832	1,845
Region IV	23,934	31,548	32,470	36,869	42,185
% Change		31.8	2.9	13.5	14.1
Region VI	15,299	20,123	20,717	21,815	23,912
% Change		31.5	2.9	5.2	9.6
15 State South	46,220	60,888	62,637	69,229	78,221
% Change		31.7	2.9	10.5	13.0
U.S.	151,871	201,298	206,188	223,532	246,039
% Change		32.5	2.4	8.4	10.0

*Area Economic Projections 1990, U.S. Department of Commerce, 1974

PERSONAL INCOME PROJECTIONS (See Table II-2)

In terms of total personal income, the South is projected to grow at a somewhat higher rate than the rest of the nation for the next 20 years. For the period 1971-80, the 15 state South is expected to increase its personal income (measured in constant 1967 dollars) by 49.8 percent, Region IV by 53.9, Region VI by 44.2, and the nation by 46.2. From 1980 to 1990, personal income growth is expected to closely approximate gains in the previous decades; 50.7 percent growth for the entire South, by 43.6 percent for Region IV, on 48.5 percent for Region VI. The national personal income is projected to increase by 42 percent during this period. If the Consumer Price Index change of 39.5 percent from 1970-75 is utilized, then these projections can be compared to the actual growth in total personal income for 1970-75. For this period, the South's total personal income grew by 41.0 percent, compared to a somewhat smaller national gain of 33.6 percent. In tracking these projections it appears that they follow relatively closely to the trends set thus far in the decade.

Table II-2

Total Personal Income
(in millions of 1967 dollars)*

	1950	1969	1971	1980	1990
Alabama	3,732	8,563	9,625	13,408	19,467
Arkansas	2,173	4,635	5,110	7,376	10,717
Florida	4,964	20,870	23,537	39,988	63,320
Georgia	4,906	13,181	14,205	21,182	31,940
Kentucky	3,889	8,572	9,253	13,953	20,520
Louisiana	4,167	9,608	10,242	14,202	19,672
Maryland	5,180	13,949	15,052	22,494	34,239
Mississippi	2,274	4,896	5,362	7,656	10,850
New Mexico	1,122	2,696	2,942	4,099	5,730
North Carolina	5,823	13,915	15,042	22,504	33,305
Oklahoma	3,523	7,296	7,835	11,251	16,066
South Carolina	2,610	6,531	7,116	10,322	15,127
Tennessee	4,549	10,399	11,214	17,179	25,920
Texas	14,473	33,953	36,265	53,047	77,063
Virginia	5,599	14,342	15,652	23,402	35,638
West Virginia	2,981	4,450	4,954	6,810	9,090
Region IV	32,747	86,927	94,994	146,192	220,449
% Change		165.4	9.3	53.9	50.7
Region VI	25,458	58,188	62,394	89,975	129,248
% Change		128.5	7.2	44.2	43.6
15 State South	70,843	175,160	190,104	284,784	422,934
% Change		143.2	8.5	49.8	48.5
U.S.	313,545	691,450	730,630	1,068,496	1,517,173
% Change		120.5	5.6	46.2	42.0

*Area Economic Projections 1990, U.S. Department of Commerce, 1974.

PER CAPITA INCOME PROJECTIONS (See Table II-3 and II-4)

The gains in per capita income for the 15 state South and Regions IV and VI separately are projected to approximate gains in the rest of the nation. Note, though, that since per capita income is below the national average in virtually every Southern state, the gains in absolute dollars will be lower for the Southern region since its base is lower. Growth in per capita incomes as a percent of the U.S. average has been much more rapid than predicted. Indeed, as of 1975, the states of Alabama, Arkansas, Florida, Louisiana, Tennessee, Texas, Virginia and West Virginia are already above their 1990 projections; Oklahoma is above its 1980 figure; Mississippi, North Carolina and South Carolina have reached their 1980 projections; and Georgia and Kentucky are within one percentage point of attaining their 1980 estimate.

Table II-3

Per Capita Income by State (1967)
Selected Years 1950-1990*

	1950		1969		1971		1980		1990
Alabama	1,220		2,489		2,657		3,579		4,759
Arkansas	1,139		2,423		2,619		3,535		4,719
Florida	1,767		3,143		3,350		4,480		5,768
Georgia	1,419		2,896		3,057		4,115		5,407
Kentucky	1,325		2,681		2,824		3,866		5,153
Louisiana	1,545		2,655		2,773		3,793		4,997
Maryland	2,200		3,606		3,756		5,028		6,491
Mississippi	1,045		2,206		2,383		3,293		4,428
New Mexico	1,629		2,666		2,815		3,885		5,065
North Carolina	1,431		2,766		2,916		3,923		5,152
Oklahoma	1,580		2,878		3,013		4,073		5,367
South Carolina	1,235		2,541		2,703		3,662		4,845
Tennessee	1,372		2,668		2,808		3,770		4,994
Texas	1,861		3,074		3,173		4,360		5,675
Virginia	1,689		3,108		3,316		4,419		5,809
West Virginia	1,486		2,548		2,802		3,717		4,926
Region IV	1,352		2,674		2,837		3,836		5,063
% Change		97.7		6.1		35.2		31.9	
Region VI	1,550		2,739		2,878		3,929		5,165
% Change		76.6		5.0		36.4		31.4	
15 State South	2,065		3,435		3,544		4,780		6,166
% Change		66.3		3.1		34.8		30.0	

*Area Economic Projections 1990, U.S. Department of Commerce, 1974

Table II-4

Per Capita Income as a
Percent of the U.S. Average (U.S.=1)*

	1950	1969	1971	1980	1990
Alabama	.59	.72	.75	.75	.77
Arkansas	.55	.71	.74	.74	.77
Florida	.86	.91	.95	.94	.94
Georgia	.69	.84	.86	.86	.88
Kentucky	.64	.78	.80	.81	.84
Lousiana	.75	.77	.78	.79	.81
Maryland	1.07	1.05	1.06	1.05	1.05
Mississippi	.51	.64	.67	.69	.72
New Mexico	.79	.78	.79	.81	.82
North Carolina	.69	.81	.82	.82	.84
Oklahoma	.77	.84	.85	.85	.87
South Carolina	.60	.74	.76	.77	.79
Tennessee	.66	.78	.79	.79	.81
Texas	.90	.89	.90	.91	.92
Virginia	.82	.90	.94	.92	.94
West Virginia	.72	.74	.79	.78	.80
Region VI	.65	.78	.80	.80	.82
Region VI	.75	.80	.81	.82	.84
15 State South	.72	.81	.83	.83	.85

*Area Economic Projections 1990, U.S. Department of Commerce, 1974.

FULL EMPLOYMENT PROJECTIONS (See Tables II-5 through II-8)

An important factor in the relationship between population and economic growth in a region is whether population and employment will increase at approximately the same rate, facilitating full employment as the region grows. The following projections are the employment levels that would be required to reduce unemployment to 6-percent, 5-percent, and 4-percent levels in 1976, 1980, and 1985. They are not estimates of what will happen, but rather measures of what will have to happen to bring all the Southern states to the same full-employment levels. The projected expansion includes that required for the absorption of those presently unemployed, those who would enter or re-enter the labor force as more jobs become available, and the expected migration gains or losses. This data was calculated on a national basis in September 1976 by the Institute for Demographic and Economic Studies, New Haven, Connecticut for the Office of Economic Research, Economic Development Administration, U.S. Department of Commerce. The projections assume the population projections of the National Planning Association.

The greatest required employment change would be in Florida, reflecting continued population growth at the same time that new employment is slowing. Louisiana, New Mexico, and Oklahoma also require high rates of employment expansion, relative to both regional and national averages.

Table II-5

Labor Force and Unemployment
May 1976*

	Labor Force (thousands) May 1976	Unemployment (thousands) May 1976	Unemployment Rate (Percent) May 1976
Alabama	1,463	97	6.6
Arkansas	860	47	5.5
Florida	3,439	340	9.9
Georgia	2,089	132	6.3
Kentucky	1,399	78	5.6
Louisiana	1,459	109	7.5
Maryland	1,846	108	5.8
Mississippi	922	49	5.3
New Mexico	449	27	6.1
N.Carolina	2,492	143	5.8
Oklahoma	1,186	86	7.3
S. Carolina	1,196	69	5.8
Tennessee	1,824	121	6.6
Texas	5,395	389	5.3
Virginia	2,266	115	5.1
W. Virginia	662	36	5.4
Averages			
Region IV	1,853	129	6.4
Region VI	1,871	111	6.3
15 State South	1,897	121	6.2
U.S.	1,862	134	7.2

*Institute for Demographic and Economic Studies; New Haven, Connecticut; September, 1976.

Table II-6

Estimated Employment Expansion for
Full Employment 1976*

	Employment change required for 6% unemployment in 1976		Employment change required for 5% unemployment in 1976		Employment change required for 4% unemployment in 1976	
	Thousands	Percent	Thousands	Percent	Thousands	Percent
Alabama	19	1.4	52	3.8	84	6.1
Arkansas	-10	-1.2	10	1.2	29	3.5
Florida	288	9.3	361	11.6	434	14.0
Georgia	14	0.7	60	3.1	106	5.4
Kentucky	-14	-1.0	18	1.3	48	3.7
Louisiana	48	3.5	79	5.9	111	8.2
Maryland	-7	-0.4	34	2.0	75	4.3
Mississippi	-15	-1.7	6	0.7	27	3.0
New Mexico	1	0.2	11	2.6	21	4.9
North Carolina	-14	-0.6	42	1.8	97	4.1
Oklahoma	33	3.0	59	5.3	85	7.7
South Carolina	-6	-0.6	20	1.8	47	4.1
Tennessee	26	1.5	66	3.9	106	6.2
Texas	-78	-1.5	42	0.8	162	3.2
Virginia	-47	-2.2	4	0.2	54	2.5
West Virginia	-9	-1.4	6	1.0	21	3.3
Averages						
Region IV	37	1.1	78	4.4	119	5.8
Region VI	-1	.80	40	3.2	84	4.8
15 State South	15	.53	57	3.5	101	5.0
U.S.	49	2.8	89	5.2	131	7.5

*Institute for Demographic and Economic Studies, New Haven, Connecticut, September, 1976

Table II-7

Projected Employment Expansion for
Full Employment 1980*

	Employment change required for 6% unemployment in 1980		Employment change required for 5% unemployment in 1980		Employment change required for 4% unemployment in 1980	
	Thousands	Percent	Thousands	Percent	Thousands	Percent
Alabama	85	6.2	118	8.7	152	11.1
Arkansas	49	6.0	69	8.5	90	11.1
Florida	782	25.2	866	27.9	949	30.6
Georgia	131	6.7	180	9.2	229	11.7
Kentucky	56	4.2	89	6.7	121	9.2
Louisiana	136	10.1	170	12.6	204	15.1
Maryland	96	5.5	140	8.0	183	10.5
Mississippi	45	5.2	67	7.7	89	10.2
New Mexico	42	9.9	53	12.5	63	15.1
North Carolina	140	6.0	199	8.5	258	11.0
Oklahoma	95	8.6	122	11.1	149	13.6
South Carolina	60	5.3	88	7.8	116	10.3
Tennessee	108	6.3	150	8.8	191	11.2
Texas	285	5.6	414	8.1	542	10.6
Virginia	76	3.5	129	6.0	183	8.5
West Virginia	18	2.8	33	5.3	48	7.7
Averages						
Region IV	176	8.1	220	10.7	263	13.2
Region VI	130	7.5	181	10.4	231	12.6
15 State South	150	7.0	198	9.5	245	12.0
U.S.	147	8.5	190	11.0	233	13.5

*Institute for Demographic and Economic Studies; New Haven, Connecticut; September, 1976.

Table II-8

Projected Employment Expansion for
Full Employment 1985*

	Employment change required for 6% unemployment in 1985		Employment change required for 5% unemployment in 1985		Employment change required for 4% unemployment in 1985	
	Thousands	Percent	Thousands	Percent	Thousands	Percent
Alabama	120	8.8	155	11.3	189	13.8
Arkansas	101	12.4	122	15.0	144	17.7
Florida	1431	46.2	1529	49.3	1626	52.5
Georgia	228	11.7	280	14.3	330	16.9
Kentucky	102	7.7	136	10.3	170	12.8
Louisiana	205	15.2	241	17.8	276	20.4
Maryland	193	11.1	239	13.7	284	16.3
Mississippi	83	9.5	106	12.1	128	14.7
New Mexico	71	16.9	83	19.6	94	22.3
North Carolina	254	10.8	316	13.5	378	16.1
Oklahoma	144	13.1	173	15.7	201	18.3
South Carolina	104	9.2	133	11.8	162	14.4
Tennessee	172	10.1	215	12.6	258	15.2
Texas	661	12.9	799	15.7	937	18.3
Virginia	166	7.7	222	10.3	277	12.9
West Virginia	27	4.3	42	6.8	58	9.2
Averages						
Region IV	312	14.3	359	16.9	405	19.6
Region VI	258	13.6	195	16.3	366	18.9
15 State South	278	12.6	329	15.2	379	17.8
U.S.	230	13.3	275	15.9	319	18.5

*Institute for Demographic and Economic Studies; New Haven, Connecticut; September, 1976.

The following are the 1970-75 percentages of non-agricultural employment expansion for the Southern states:

Alabama	13.8
Arkansas	16.2
Florida	26.4
Georgia	11.2
Kentucky	15.0
Louisiana	15.1
Maryland	9.5
Mississippi	16.0
North Carolina	14.6
Oklahoma	15.3
South Carolina	16.2
Tennessee	13.8
Texas	21.4
Virginia	15.9
West Virginia	9.1

If the states were to expand by the same percentage amounts from mid-1976-80 and 1980-85 as they did from 1970-75, then all the states would be capable of obtaining 4 percent full employment by 1985, and all but 3 by 1980. However, as was noted in chapter 1, growth of new jobs has slowed down in several states following the recent recession, and it is unlikely that the South's rapid rate of employment expansion witnessed in the early 1970's will be sustained.

PROJECTED CHANGES IN EMPLOYMENT STRUCTURE (See Tables II-9 and II-10)

Equally important to the amount of future economic growth in the Southern region is the changing structure of the economy. Although manufacturing is declining in the relative importance to the region's economy, the health of the Southern economy is closely tied to this sector. While total manufacturing does not appear to be a strong growth sector in the future, the region's industrial mix will change. The projected manufacturing growth industries in the coming decade appear to be machinery and instruments, which grew by over 30 percent from 1970-75, fabricated metals which grew by 13 percent during the same period, and electrical equipment which increased approximately 8 percent; all of these have relatively high-wage scales.

Future employment growth is projected for the services and trade sector based on the 1970-75 growth rate of nearly 30 percent. Employment in the production of basic energy--coal, oil, and natural gas--will also become increasingly important, since the 15 state South contains more energy reserves than any other national region.

As noted in Section I, in 1975 there was only small differences between the South and the U.S. in their relative proportions of employment in the major economic sectors. There are, however, substantial differences in the employment structure between states within the South, as can be examined in Table II-10. Louisiana, Virginia, Florida, West Virginia and Maryland had lower than national averages in agricultural employment, the Carolinas and Tennessee were at the nation's average, and the remaining states were above average with Arkansas being the most dependent on this sector for its employment; Mississippi registered the greatest change in dependence on agriculture since 1940.

In basic energy production, Kentucky, Louisiana, Texas, Virginia, and West Virginia are net exporters, and West Virginia has the highest proportion of

workers employed in energy of all the Southern states. Every Southern state had greater than national averages in construction employment; Alabama, Florida, Louisiana, Texas and Virginia being the highest. Most Southern states showed increases in the relative concentration in trade, finance, insurance, and real estate between 1940 and 1975. Surprisingly only four states in the region, Florida, Louisiana, Maryland and Mississippi had greater than national averages in trade and services. In terms of government employment, all but four states were close to or below the national average.

Table II-9

DISTRIBUTION OF EMPLOYMENT BY MAJOR SECTORS, AS PERCENTAGE OF TOTAL EMPLOYMENT, SOUTH AND U.S., SELECTED YEARS, 1940-1975

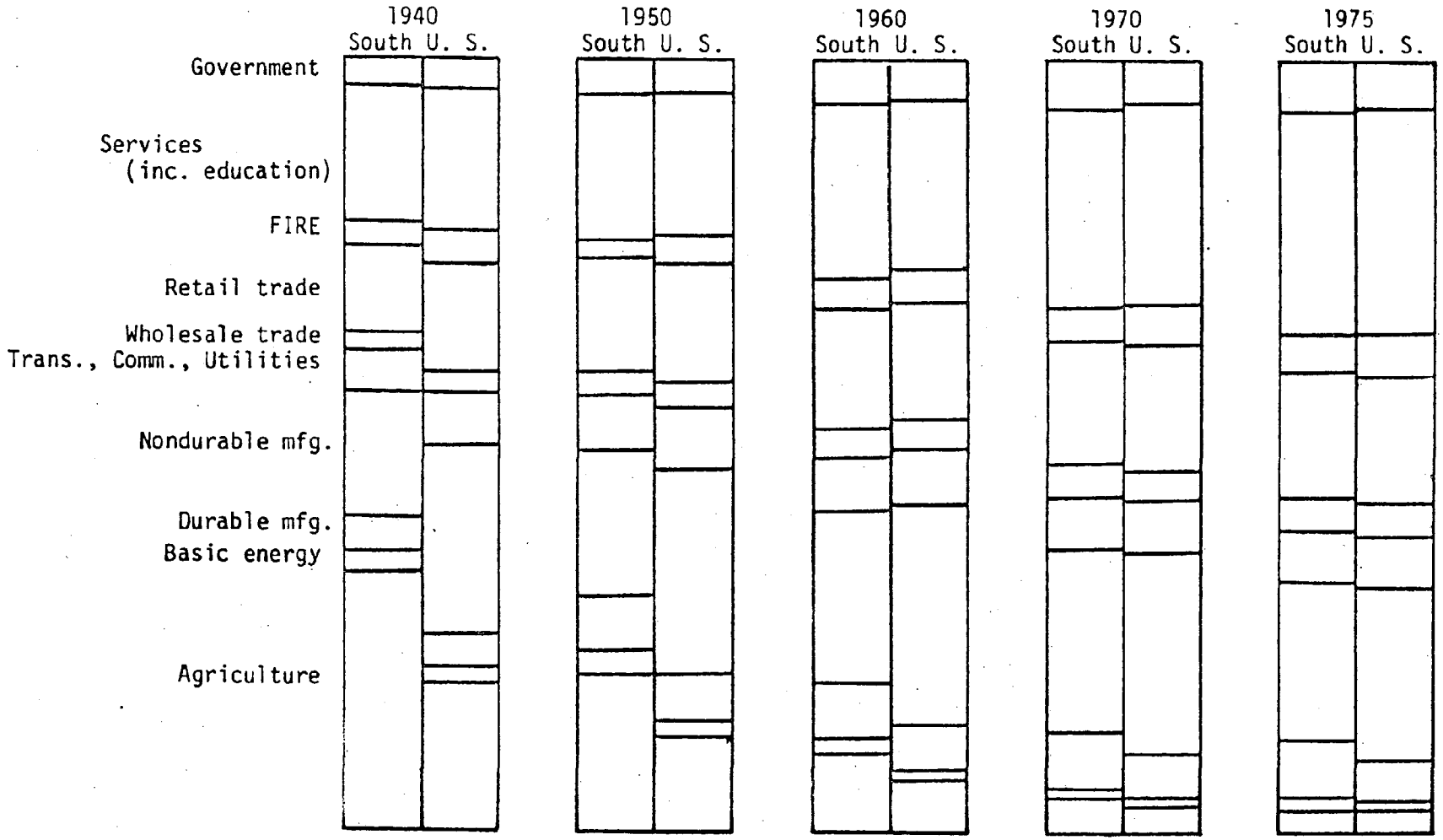
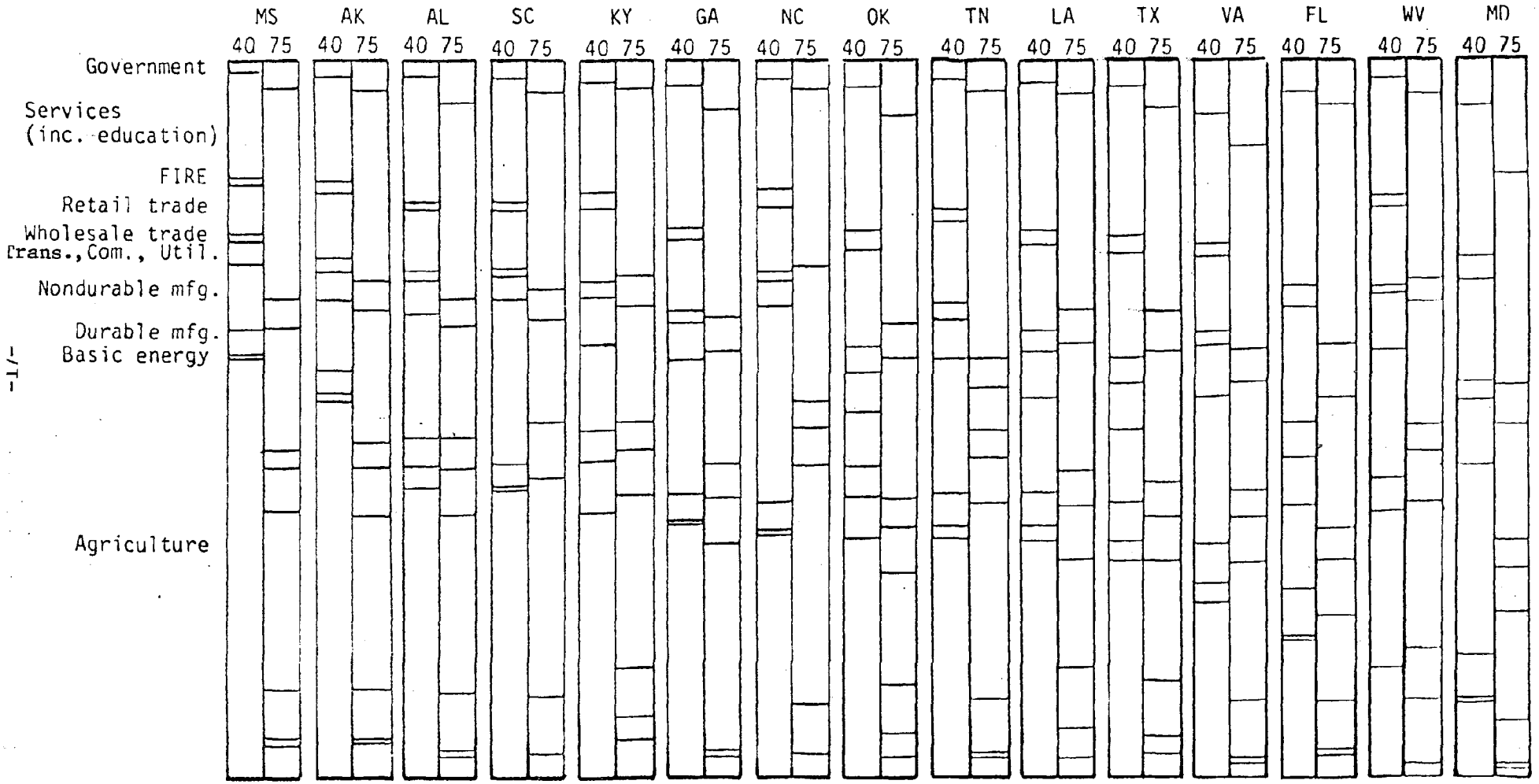


Table II-10

DISTRIBUTION OF EMPLOYMENT AS PERCENTAGE OF TOTAL EMPLOYMENT,
BY MAJOR SECTORS AND STATES, SELECTED YEARS, 1940-1975



Source: "The Changing Structure of the Southern Economy" by William Miernyk
SGPB Occasional Paper No. 2, January, 1977.

FUTURE GROWTH PROSPECTS

GENERAL GROWTH PATTERNS

If the trends established over the last decade continue and development plans are implemented, growth and development in the South will follow patterns similar to the early 70's. Dispersed population growth will continue, primarily in suburban and exurban areas in and around large and medium-sized SMSAs, and in nonmetropolitan areas that are not primarily dependent on an agricultural economy--particularly resort and retirement areas. Exceptions to this general pattern will be the growth of some selected smaller SMSAs under 350,000 population, and the continued growth of several large SMSAs that serve as regional centers for trade, commerce, finance or energy development. These larger regional centers include Atlanta, Miami, Dallas, Houston, Oklahoma City and Nashville.

The trend to dispersed growth will probably contribute to the decline of some Southern central cities. Retail businesses will follow the population migration to areas outside the city core, and will be replaced to some extent by the various financial and service industries.

Inmigration to the South will probably continue, although probably at a somewhat reduced rate from the early 1970's. The push and pull of economic forces will probably result in an up and down fluctuation of migration rates in various Southern states, but overall inmigration to the region should continue, barring a major economic recession. Over the long run, however, continued heavy population inflows will probably erode the South's drawing power as total income levels rise, excess labor is absorbed and wages and prices are pushed up, thus erasing cost advantages. However, retirees will probably continue to migrate South in record numbers bringing their own income and accumulated capital.

New industrial development will be scattered in suburban areas and in larger nonmetropolitan towns and cities. Some new industrial development may be more concentrated along the Gulf coast and near the coal fields of Appalachia. Increased foreign trade and foreign investment should provide a major stimulus to industrial growth in the South.

Large-scale farming and related agribusiness should flourish in the southeast. Substantial additional agricultural land is available along the Atlantic coast and in acreage now planted in forage crops and timber. If agricultural demand justifies the cost of drainage and clearing, this acreage may be cultivated in the future.

SUBREGIONAL GROWTH PRESSURES

A continuation of recent trends will cause heightened growth pressures on various geographic subregions and areas of the South. In general, development pressures can be anticipated in many coastal areas, particularly in Florida, the Gulf coast from New Orleans to Pensacola, and the upper Texas coast. While growth on the Atlantic coast north of Florida will not be as concentrated, specific resort areas in Maryland, Virginia and the Carolinas will be subjected to development pressures.

Foreigh trade should spur economic activity around port cities in Florida, Virginia and the Carolinas. Foreign trade zones have been established in Virginia, South Carolina, Florida, and Georgia.

Coastal development will be primarily residential in Florida and North Carolina. On the Gulf coast, industrial growth will be spurred by energy development and proposed major super ports offshore from Texas and Louisiana. OCS activity could spur some industrial growth in Maryland, Virginia, South Carolina and Georgia. However, the overall onshore impact of OCS activity

along the Atlantic coast is uncertain.

Another uncertainty of coastal growth is the potential impact of state coastal zone management programs now being developed under the federal Coastal Zone Management Act of 1972. All Southern states are currently developing coastal management programs, which are primarily geared to protecting fragile areas from development and to preserving wetlands and other natural features.

Continued rapid growth can be expected in the mountain regions of the South. The Ozarks and Quachita region of northern and western Arkansas and eastern Oklahoma should continue to experience rapid population growth. Recreation and resort areas of the southern Appalachian from Virginia to north Georgia will also experience new growth from retirement, recreation and second home development.

In central Appalachia, coal mining and related economic development should cause rapid population growth in small towns and nonmetropolitan areas from northeastern Tennessee to West Virginia. Eastern Kentucky, in particular, should continue to experience a surge of population growth and development activity related to coal mining. However, tight federal controls on strip mining could slow coal development in Kentucky and West Virginia.

Energy related development should continue unabated in Texas, Louisiana, and Oklahoma for the immediate future. However, as domestic supplies of hydrocarbons decline, new sources or substitute fuels will be needed to fuel the economies of these areas. The two superports proposed for the Texas and Louisiana coasts are seen as a vehicle for substituting foreign oil to serve the region's petrochemical and refining industries. And as utilities in Region VI are forced to switch from natural gas to alternative fuels, the strip mining of lignite coal will increase in central and northeastern Texas and southwestern Arkansas.

Most of the South enjoys a plentiful water supply, which is a fundamental requirement for the region's continued growth. In Region IV, water from natural runoff and ground water storage is more abundant than in most other parts of the country. As a result, projections of water withdrawals and consumption relative to supplies in 1980 indicate a very favorable outlook for the southeast, with the exception of south Florida whose water shortages could seriously curtail new population growth.

Several water resources development projects should generate new growth in several subregions of the South. The Tennessee-Tombigbee waterway, a 253-mile system of canals, locks and lakes will link the Tennessee River with the port of Mobile, uniting 12 river systems which connect 33 states. The project will have a primary impact on 165 counties in four states; Alabama, Mississippi, Tennessee and Florida. Much of the area is primarily rural and underdeveloped and should benefit from new population growth and economic development. For instance, it has been estimated that within several years of its completion, 55 million tons of industrial freight will be shipped on the waterway annually. Eighteen million tons of coal will be transported along the waterway in its first year of operation--now expected in 1983. The waterway should also have a major impact on Mobile, where port operations will be substantially increased. The importance of Birmingham as an inland port and regional distribution center should also be enhanced.

Another proposed water project is the Red River navigation project that would reach from northern Louisiana through southwestern Arkansas and along the Texas-Oklahoma border. This project, scheduled for completion in 1983, could spur new growth and development over a wide, essentially nonmetropolitan region similar to the growth generated by the Arkansas River project just to the North.

Throughout the South, other smaller water resources development projects could generate growth and development in scattered nonmetropolitan locations.

Most notable of these projects is the TVA's Tellico Dam and Reservoir project in eastern Tennessee, which has been recently halted by court order, and numerous water projects of the Corps of Engineers and the Soil Conservation Service.

Major energy development projects proposed for the South also could, if implemented, generate growth and development. Most notable of these projects is the nuclear recycling demonstration project proposed for the Clinch River area near Oak Ridge, Tennessee. While there is some doubt concerning the future of the Clinch River project, a major private firm has already announced the location of a new nuclear fuel storage facility near the proposed breeder demonstration site.

Another major nuclear fuel facility--a uranium enrichment plant--has been proposed for Houston County near Dothan in southeast Alabama. Seven American industries and a number of foreign governments will participate in a consortium building the project. If completed, this $8.5 billion facility is expected to generate 12,000 new construction jobs alone and a population increase of 60 percent over a four year period near the nonmetropolitan area around Dotham--a city of 50,000.

In Kentucky, demonstration projects to convert coal to liquid and gas are planned near Cuttlesburg in northeastern Kentucky and near a small rural community on the Ohio River in western Kentucky. Intensified coal mining in northern and central Alabama will also likely fuel continued industrial development.

The completion of Interstate highways should boost growth in some areas of the South, particularly Interstate 10 along the Gulf coast. And, mass transit systems planned for Atlanta, Miami, Jacksonville and other Southern metropolitan areas should alleviate some of the economic problems of central cities.

ECONOMIC & ENVIRONMENTAL CONSTRAINTS TO GROWTH

While many parts of the South are faced with the prospects of rapid growth and development, some areas are faced with severe economic problems or environ-

mental constraints that could cause serious economic dislocations and population loss. Some of the more severe problem areas are described below.

-- High Plains area of northwest Texas and western Oklahoma is faced with a serious water shortage that threatens to severely disrupt the region's agricultural economy. Most of this area depends on irrigated farming, and the impact of lowering water tables and high energy costs to pump water for irrigation are already causing economic problems.

-- South Florida also is experiencing a serious water shortage that will likely slow the rate of new growth. Already, this area's economy has been hard hit by a decrease in construction activity and many construction workers have migrated out of the area.

-- Inadequate municipal waste treatment facilities pose a severe growth problem for many Southern communities. Already, the Economic Development Administration estimates that 194 Southern communities serving a population of 6.5 million have water treatment facilities that are operating at over 100 percent capacity, while another 290 Southern communities serving a population of over 11 million are operating between 80 and 100 percent capacity.

-- The energy producing southwestern states also face serious problems for the future generation of electricity. Much of the electrical generation in this area is currently fueled by burning natural gas. In the near future, these power plants will be forced to use alternative fuels--primarily coal--causing major transportation problems and high costs. In fact, some experts believe that Texas and Oklahoma will face severe shortages of electrical generating capacity even before the 1980's.

-- In Louisiana, the petrochemical industry is faced with shortages of oil and natural gas in the 1980's. Construction of superports on the Gulf coast could provide foreign oil to alleviate this problem for the immediate future.

Table II-11

Southern Communities Whose Municipal Waste Water Treatment Facilities Are Approaching Capacity Or Already Overextended*

	Where Waste Water Treatment Facility is between 80-100% Capacity		Where Waste Water Treatment Facility is Over 100% Capacity	
	Number of Communities	Population Served	Number of Communities	Population Served
Alabama	12	161,224	10	145,507
Arkansas	2	5,600	3	14,227
Florida	20	1,106,064	24	600,329
Georgia	30	2,467,174	24	1,286,444
Kentucky	10	92,133	7	245,160
Maryland	17	764,174	9	2,046,344
Mississippi	14	119,630	4	38,968
Missouri	19	4,890,404	0	-------
North Carolina	32	553,205	29	366,080
Oklahoma	20	287,419	13	73,736
South Carolina	7	84,038	14	150,055
Tennessee	21	3,878,296	12	88,378
Texas	38	1,079,655	26	806,002
Virginia	32	1,421,533	19	616,550
West Virginia	16	146,298	0	-------
	290	17,065,863	194	6,477,780

*Data compiled from the "Preliminary Listing of Municipal Waste Water Treatment Capacities", September 1976, Oklahoma Foundation for Research and Development, Inc., prepared for the Office of Economic Research, Economic Development Corporation, U.S. Department of Commerce.

-- A halt or slowdown in construction of nuclear power plants could cause major economic problems for the mid and south Atlantic states by the 1980's. Already, industry in this area has suffered from the curtailment of natural gas supplies, a situation that will not improve in the immediate future.

-- New air quality requirements could constrain economic growth of some of the South's larger SMSAs, particularly Houston, Dallas, Oklahoma City and Tulsa. "Nondegradation" regulations could seriously hamper energy and industrial development in nonmetropolitan areas with relatively clear air.

-- Flood plain zoning and requirements for national flood insurance protection are already restricting development in such areas as eastern Kentucky and will inhibit development in many metropolitan areas of the South.

-- Agricultural production could face problems from nonpoint source water pollution regulations and tough restrictions on the use of pesticides and herbicides. The fire ant poses a particular threat to Southern agriculture in Mississippi, Alabama and Georgia.

-- Outmigration and slow economic growth will continue to plague the agricultural areas of the Mississippi delta where economic diversification has not yet occurred. Rural poverty will continue in other farming areas of the South.

-- Noise pollution will also be a future growth problem in several Southern metropolitan areas where new airport development is planned. Major airport expansions are planned for Raleigh-Durham, Atlanta, Orlando, Miami, Birmingham, Nashville and Louisville.

-- Further cutbacks in federal space and military program could cause continued economic distress in such areas as Huntsville, Alabama and Brevard County, Florida.

-- A reallocation of federal grants away from the South to other regions could accelerate the decline of many central cities in the South, but would not have a major impact on the overall growth of the region.

FUTURE GROWTH ALTERNATIVES

The proceeding forecast of future Southern growth is based on population and economic trends since 1970. In general, the dynamic growth of the Southern economy and population caused dispersed urban growth in suburban and exurban areas around the region's cities and in and near smaller cities and towns in nonmetropolitan areas. Much of the new Southern population growth has tended to be in low density developments in or near SMSAs and in the vast open spaces of the South's rural areas. However, high density urban growth has occurred in some areas, particularly Florida where resort and retirement developments are crowded along the coast in multi-family units.

Industrial growth, particularly manufacturing, has also been decentralized and scattered in rural areas and smaller cities throughout the region. However, finance, insurance and professional services have tended to concentrate in central cities and their immediate suburbs.

These recent Southern growth trends are not without certain costs and disadvantages. Urban sprawl has occurred in most Southern metropolitan areas increasing the cost of public services and causing adverse environmental impacts such as air pollution, flooding from storm runoffs, soil erosion, nonpoint source water pollution, reduction of open space, the conversion of agricultural land, and high energy consumption. To alleviate these environmental problems and to reduce the cost of dispursed growth, many planners and environmentalists advocate planned, high density urban living.

Three factors could cause a major change in current growth trends. First, a prolonged economic recession could substantially slow or even halt Southern growth, and would probably alter spatial growth patterns to some extent. Second, a prolonged energy crisis similar in magnitude to the OPEC embargo of 1973-74 would seriously curtail economic growth and probably alter population settlement and industrial location patterns. Third, a major shift in certain public

policies could probably alter current Southern growth trends and settlement patterns.

Since the first two factors are obviously undesirable, any attempt to drastically change Southern growth patterns will require major governmental initiatives. Deliberate attempts by government to substantially alter current growth trends would require more centralized planning at the federal and state levels. A national commitment to substantially reduce energy consumption, to halt dispersed growth and urban sprawl and to encourage high density urban living would require more national economic planning, federal, state and local land use planning and controls, transportation controls in urban areas and a national energy policy designed to inhibit the use of private automobiles. Such an approach would also require a massive national commitment to urban redevelopment and mass transit.

In addition to major changes in public policies and intergovernmental relationships, a shift to high density urban living would require the alteration of existing attitudes and public preferences for low density living, personal mobility and local political control. In addition, high density urban living could increase the public sector costs of growth by requiring massive subsidies for mass transit, urban redevelopment, and urban recreation facilities. In the private sector, land prices could be driven up and curtailed economic growth in the commercial and business sectors could cause economic hardships in many metropolitan areas. And, if energy conservation policies seriously restrict energy development in the South, a slowdown in Southern industrial development could result.

In short, high density urban living is at the opposite extreme from the current patterns of dispersed growth which results in urban sprawl, high public service costs and high energy consumption. The Southern states and their communities will, in all likelihood, seek to implement growth management policies that attempt to find a middle ground between rampant urban sprawl and high density urban living.